



January 1997 Time Local/ Path Length Path Number of Estimated Width Persons Damage SOUTH DAKOTA, West SDZ001>002-012>014-Harding - Perkins - Butte - Meade Co. Plains - Ziebach - Northern Black Hills - Northern Foot Hills - Central Black Hills -024>025-028-031>032-Pennington Plains - Haakon - Jackson - Bennett - Mellette - Todd - Tripp 043>044-046>047-049 04 05 0000MST Blizzard 1200MST A mix of wintry precipitation changed to all snow. Across the plains of western South Dakota, two to six inches of snow fell with Harding and Perkins counties being the hardest hit. Up to nine inches fell in the central and northern Black Hills. Strong northwest winds, frequently to 40 mph, caused near zero visibility in blowing and drifting snow. Most roads, along and north of Interstate 90 and in the northern Black Hills, were closed or blocked by drifted snow. Numerous auto accidents and isolated power outages were Harding - Perkins - Butte - Meade Co. Plains - Ziebach - Northern Black Hills - Northern Foot Hills - Central Foot Hills -SDZ001>002-012>014-024>026-030>032-Custer Plains - Pennington Plains - Haakon - Shannon - Jackson - Bennett - Mellette - Todd - Tripp 042>044-046>047-049 09 10 2000MST A surge of arctic air with 40 to 60 mph winds created deadly wind chill indices to 80 below. Snowfall amounts were light over the plains, but winds lifted snow already on the ground resulting in zero visibility. Most roads, including Interstate 90, were closed along and north of a line from Belle Fourche to Wall to Winner. Heavy snow occurred in the northern Black Hills with a maximum of 12 inches near Lead. Numerous automobile accidents and scattered power outages were reported. Harding - Perkins - Butte - Meade Co. Plains - Ziebach - Northern Black Hills - Northern Foot Hills - Central Foot Hills -SDZ001>002-012>014-024>032-041>044-Southern Foot Hills - Central Black Hills - Southern Black Hills - Custer Plains - Pennington Plains - Haakon - Fall River 046>047-049 Co. - Shannon - Jackson - Bennett - Mellette - Todd - Tripp 1200MST 1200MST Arctic air lowered temperatures into the ten to 30 below zero range for overnight lows with highs remaining below zero. A persistent northwest wind produced wind chill indices from 30 to 70 below zero through the period. The bitter cold made digging out from the recent blizzard difficult. Also, the cold contributed to damage and loss of livestock. SDZ001>002-012>014-Harding - Perkins - Butte - Meade Co. Plains - Ziebach - Northern Black Hills - Northern Foot Hills - Pennington Plains -024>025-031>032-043 Haakon - Jackson 0300MST 1200MST Blizzard WYOMING, Northeast WYZ054>058 Gillette - South Campbell - Moorcroft - Wyoming Black Hills - Weston Three to five inches of snow combined with 40 mph winds created hazardous travel conditions. Visibility was near zero at times with blowing and drifting snow. WYZ054>058 Gillette - South Campbell - Moorcroft - Wyoming Black Hills - Weston 0200MST Blizzard 10 0600MST Two to eight inches of snow combined with 50 mph winds to reduce visibilities to zero. Along with hazardous travel conditions,

wind chill indices dropped to 60 below zero.

WYZ054>058 Gillette - South Campbell - Moorcroft - Wyoming Black Hills - Weston

09 1200MST 0 0 Extreme Cold 12 1200MST

Arctic air brought temperatures into the 15 to 35 below zero range for overnight lows with daytime highs only near zero. Persistent northwest winds kept wind chill indices between 30 and 60 below zero through the period.





Time Path Path Number of Estimated January 1997

Local/ Length Width Persons Damage

Location Date Standard (Miles) (Yards) Killed Injured Property Crops Character of Storm





Time Path Path Number of Estimated February 1997
Location Date Standard (Miles) (Yards) Killed Injured Property Crops Character of Storm

#### **SOUTH DAKOTA, West**

SDZ025>026 Northern Foot Hills - Central Foot Hills

22 1200MST 0 0 7.5K Winter Storm 1600MST

Gusty winds up to 35 mph and snow showers over icy roads created numerous traffic accidents in and around Rapid City. 17 accidents were reported on a 6 mile stretch of Interstate 90 between Blackhawk and Piedmont. 10 accidents were reported in Rapid City, with 1 minor injury.





Time Local/ Length Width Persons Damage
Location Date Standard (Miles) (Yards) Killed Injured Property Crops Character of Storm

#### **SOUTH DAKOTA, West**

SDZ024-028 Northern Black Hills - Central Black Hills

03 0600MST 0 0 Winter Storm

Light snow and northwest winds of 10 to 25 mph resulted in less than desireable conditions for the central and northern Black Hills. Snowfall amounts of 4 to 6 inches were reported with visibilities less than one-quarter mile at times due to blowing and drifting

snow

SDZ012>013-024>031-041>042 Butte - Meade Co. Plains - Northern Black Hills - Northern Foot Hills - Central Foot Hills - Southern Foot Hills - Central

Black Hills - Southern Black Hills - Custer Plains - Pennington Plains - Fall River Co. - Shannon

12 0100MST 0 0 Winter Storm 13 1000MST

A winter storm of freezing drizzle, fog, and light snow turned roads into ice rinks across the Black Hills and plains of Western South Dakota. Area police and Highway Patrol investigated 80 accidents between 7:00 A.M. and noon on Wednesday morning. Three of

the accidents involved minor injuries.

SDZ013-026-031-042 Meade Co. Plains - Central Foot Hills - Pennington Plains - Shannon

24 1100MST 0 0 High Wind (G57)

A strong pressure gradient over western South Dakota resulted in very strong winds. Rapid City regional airport broke a record, previously set in 1996, for the highest wind gust recorded there.

WYOMING, Northeast

WYZ054>058 Gillette - South Campbell - Moorcroft - Wyoming Black Hills - Weston

12 0100MST 0 0 Winter Storm

A winter storm of freezing drizzle, fog, and light snow turned roads into ice rinks and resulted in numerous power outages across northeast Wyoming.





Time Path Path Number of Estimated April 1997

Location Date Standard (Miles) (Yards) Killed Injured Property Crops Character of Storm

#### **SOUTH DAKOTA, West**

SDZ001>002-012>014-024>026-028>032-042>044-046>047-049 Harding - Perkins - Butte - Meade Co. Plains - Ziebach - Northern Black Hills - Northern Foot Hills - Central Foot Hills - Central Black Hills - Southern Black Hills - Custer Plains - Pennington Plains - Haakon - Shannon - Jackson - Bennett - Mellette - Todd - Tripp

05 0000MST 0 0 50M Blizzard 2000MST

Snowfall of 1 to 2 feet was common over the northern Black Hills and northwest plains of South Dakota with 6 to 12 inches reported elsewhere. Maximum snowfall was 34 inches at Lead. Drifts of 5 to 15 feet developed as sustained winds over 45 mph with frequent gusts over 60 mph ripped across the area for nearly 24 hours. Peak winds included 71 mph at Ellsworth AFB, 69 mph at Rapid CIty, 70 mph at Buffalo, and 67 mph at Winner. Almost all roads were blocked or closed and other forms of travel were impossible. Travel was banned in most areas and many emergency response activities were made impossible. Widespread power outages occurred. East of the Black Hills, the problems were compounded by the heavy rain and sleet that fell before the blizzard developed. Hardest hit by the blizzard were ranchers who suffered major livestock losses as calving season was underway.

SDZ013-024-026>032-041>044-046>047-049 Meade Co. Plains - Northern Black Hills - Central Foot Hills - Southern Foot Hills - Central Black Hills - Southern Black Hills - Custer Plains - Pennington Plains - Haakon - Fall River Co. - Shannon - Jackson - Bennett - Mellette - Todd - Tripp

A late season storm produced snow from the Black Hills through South Central South Dakota. The greatest amounts occurred in a 40 mile wide swath generally along and south of Interstate 90. Snowfall amounts include

9 inches at Rapid City, 12 inches at Deerfield, 10 inches at Custer, 11 inches at Mission, and 12 inches at Winner. Outside this swath, snowfall generally ranged from 3 to 6 inches.

**Meade County** 

3 E Plainview 30 1940MST 0 0 Hail (0.75)

3/4 inch hail covered the ground.

#### WYOMING, Northeast

WYZ054>058 Gillette - South Campbell - Moorcroft - Wyoming Black Hills - Weston

04 1600MST 0 0 Blizzard

Snowfall of 1 to 2 feet combined with 40 to 60 mph winds producing zero visibility and drifts to 15 feet across much of northeast Wyoming. Most roads were closed and power outages were widespread. Ranchers were hard hit with livestock losses as calving season was underway.





Location	Date	Time Path Local/ Length Standard (Miles)		Numl Per Killed	ber of sons Injured	Estin Dar Property	nated nage Crops	May 1997 Character of Storm
SOUTH DAKOTA, W	<u>'est</u>							
Harding County								
Buffalo Arpt	04	1548MST 1550MST		0	0			Thunderstorm Wind (G75)
Perkins County (Y22)Lemmon Arpt	04	1648MST 1650MST		0	0			Thunderstorm Wind (G62)
WYOMING, Northea	<u>st</u>							
Campbell County								
15 E Wright	24 HAIL	1458MST 1502MST FELL AT JACOB'S RANCH	H MINE	0	0			Hail (0.75)





Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Numb Pers Killed		Estin Dan Property	nated nage Crops	Character of Storm	June 1997
SOUTH DAKOTA, V	<u>West</u>									
Pennington County 1 W Rapid City	01	1410MST			0	0			Hail (0.75)	
Pennington County Rapid City	01	1430MST			0	0			Hail (0.75)	
Bennett County 20 W Martin to 20 E Martin	01	1700MST 1900MST			0	0			Flash Flood	
Mellette County 15 N Cedar Butte	01	1700MST 2100MST			0	0			Flash Flood	
Mellette County 15 N Cedar Butte	01	1700MST			0	0			Hail (2.00)	
Mellette County White River	01	1712MST 1715MST			0	0			Hail (0.75)	
Mellette County White River	01	1725MST 1730MST			0	0			Hail (0.75)	
Bennett County Martin	01	1758MST 1835MST			0	0			Hail (1.00)	
Shannon County Pine Ridge	01	1800MST 2000MST			0	0			Flash Flood	
Shannon County Pine Ridge	01	1800MST			0	0			Hail (1.00)	
Mellette County 15 N Cedar Butte	01	1830MST			0	0			Thunderstorm W	ind (G52)
Mellette County 15 N Cedar Butte	01	1900MST			0	0		25K	Hail (3.00)	
Bennett County Martin	01	1902MST 1905MST			0	0			Thunderstorm W	ind (G56)
	Durin	g the late afternoo	on and early e	vening hours	a significa	nt flash fl	ood occurre	ed from so	uthwest to south-centr	al South Dakota

During the late afternoon and early evening hours, a significant flash flood occurred from southwest to south-central South Dakota. Large hail, gusty winds and flooding rains were a result of these thunderstorms. In Bennett county, 5 miles west of Martin, two cars were washed off Highway 18 by rushing water over the road. No injuries were reported in either case. Highway 18 had numerous places where water covered the road in Bennett county. In southwest Mellette county, numerous secondary roads were washed out and many places were under water, and three inch hail caused extensive damage to one rancher's home and crops.

Pennington County 7 SW Rapid City to 4 SW Rapid City	02	1500MST 1600MST	0	0	286K	Flash Flood
Pennington County Rapid City	02	1500MST 1600MST	0	0	147K	Urban/Sml Stream Fld
Pennington County 6 W Rapid City	02	1530MST	0	0		Hail (0.75)
Pennington County 8 SW Rapid City	02	1540MST	0	0		Hail (1.00)

During the late afternoon and early evening a localized but rather intense flash-flood occurred in the Rapid Creek drainage basin. A thunderstorm produced rainfall amounts of 2 to 3 inches in less than an hour from Deerfield to Rapid City. More localized amounts





	Time Local/	Path Length	Path Width		Number of Persons		nated nage		June 1997
	LOCal/				SOIIS	Dai	nage		
Location Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm	

#### SOUTH DAKOTA, West

of four and a half inches in a half hour period were reported in the Chapel Valley area, where extensive damage was also reported. In Cleghorn Canyon, appropriately 7 miles southwest of Rapid City, the water was six to eight feet deep, washing out a couple of driveways and tearing out a couple of bridges. In Red Rock Canyon, approximately 4 miles southwest of Rapid City, the water was eight to ten feet deep and washed out some driveways, bridges, and culverts. A shed from the Chapel Valley area was also washed down stream. In the Rapid City area, some local roads were covered with six inches to over one foot of water, and a local golf course reported some minor flooding.

<b>Bennett County</b>					
12 W Martin to Allen	02 03	2122MST 0400MST	0	0	Flash Flood
Jackson County					
15 NW Longvalley to 8 NW Longvalley	02 03	2122MST 0030MST	0	0	Flash Flood
<b>Shannon County</b>					
5 W Oglala	02 03	2122MST 0400MST	0	0	Flash Flood

Heavy rain fell over south central South Dakota during the late evening hours causing already swollen rivers and streams to come out of their banks. Minor flooding was reported on U.S. Highway 18 in Bennett and Shannon counties, and over county road 2 and Highway 44 in Jackson county.

Perkins County 10 NW Usta to 5 SE Usta	11	1000MST 1600MST	0	0	24.7K	Flash Flood
Ziebach County 30 NW Dupree to 10 NE Dupree	11	1000MST 1600MST	0	0		Flash Flood

Excessive rain of four to eight inches fell during the overnight and early morning hours over southeast Perkins and northern Ziebach counties; as a result, numerous creeks and the Moreau river overflowed their banks. Sections of Highway 73 and other secondary roads had be closed temporarily due to water flowing over them. Two culverts northwest and west of Usta and three bridges over Deer Creek were washed out.

Shannon County 2 W Oglala	11	1150MST			0	0	Hail (1.75)
Shannon County 3 SE Oglala	11	1205MST			0	0	Hail (0.75)
Mellette County White River	11	1225MST	0.1	1	0	0	Tornado (F0)
Mellette County White River	11	1325MST			0	0	Hail (1.75)

A cluster of thunderstorms over southwest and south-central South Dakota produced hail up to golfball size in diameter and a brief tornado. No injuries or damage were reported by the hail or the tornado.

Meade County					
Opal to 5 NE Opal	11	1750MST 2300MST	0	0	Flash Flood
<b>Ziebach County</b>					
Red Scaffold to 5 NE Red Scaffold	11	1750MST 2300MST	0	0	Flash Flood

Heavy rain during the late afternoon and evening hours across northeast Meade and southwest Ziebach counties produced flash flooding along Brushy, Beaver, and Cherry creeks and the Cheyenne river. The emergency manager from Meade county reported some county roads had been washed out and that water was up to six feet deep in some locations in northeast sections of the county.





Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Numb Pers Killed	oer of sons Injured	Estimated Damage Property Crops	June 1997 Character of Storm
SOUTH DAKOTA, W	<u>'est</u>							
Meade County 10 SE Sturgis	14	1250MST			0	0		Hail (0.75)
Meade County Sturgis	14	1350MST			0	0		Hail (0.75)
Meade County 10 SE Sturgis	14	1520MST 1600MST			0	0		Funnel Cloud
Pennington County 15 E Rapid City	14	1600MST 1625MST			0	0		Funnel Cloud
Meade County 10 E Piedmont	14	1630MST			0	0		Hail (0.75)
Meade County 10 E Piedmont	14	1630MST			0	0		Hail (4.00)
Meade County Ellsworth Afb	_	1645MST ge severe thunderst				0 ed east ac	ross southern Meade	Hail (1.00) county. The storm produced hail up to
Lawrence County St Onge	14	1645MST			0	0		Hail (1.00)
Fall River County 5 N Hot Spgs	15 A thur	1236MST nderstorm produce	<b>0.1</b> ed a brief torn	<b>1</b> ado near Arg	<b>0</b> gyle Road. N	<b>0</b> No injuries	or damage were repo	Tornado (F0) orted
Harding County 15 N Buffalo	18	2035MST			0	0		Thunderstorm Wind (G52)
Butte County Hoover	_	2120MST g thunderstorms do to 60 mph, but no		-	0 evening hou	0 ars over no	orthwest South Dako	Thunderstorm Wind (G52) ta. These storms produced strong wind
Shannon County 10 W Pine Ridge	19	1445MST			0	0		Hail (0.75)
Shannon County Pine Ridge	19 A seve	1455MST ere thunderstorm p	produced golf	ball size hail	<b>0</b> , damaging	0 numerous	cars, over southern S	Hail (1.75) Shannon County.
Meade County Elm Spgs	19	2310MST			0	0	1K	Hail (1.00)
Meade County 2 E Elm Spgs	19	2315MST			0	0	0.50K	Hail (1.00)
Meade County 10 ENE Elm Spgs	19	2315MST			0	0		Hail (2.00)
Meade County 10 ENE Elm Spgs	19	2315MST			0	0	25K	Thunderstorm Wind (G52)
Pennington County 5 N Creighton	19	2330MST			0	0	0.50K	Hail (1.50)
Pennington County 2 E Creighton	19	2330MST 2340MST			0	0	25K	Hail (2.00)





Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Numl Per Killed	per of sons Injured	Estimated Damage Property Crops	June 1997 Character of Storm
SOUTH DAKOTA,	<u>West</u>							
Haakon County Philip	20	0015MST			0	0		Thunderstorm Wind (G65)
Haakon County								
25 E Philip	thund	erstorm winds cau	ised considera	able damage	to crops an	id broke so		Hail (1.00) e 19th and 20th. Large hail and strong e Elm Springs and Creighton areas. In crop.
Shannon County 8 W Pine Ridge	20	0245MST			0	0		Hail (2.75)
Butte County 1 E Nisland	21	1205MST			0	0		Funnel Cloud
Butte County 1 E Nisland	21	1208MST			0	0		Hail (0.75)
Meade County 7 NE Hereford	21	1335MST	0.1	1	0	0		Tornado (F0)
Meade County 3 SE Elm Spgs	21	1440MST			0	0		Hail (0.75)
Haakon County Philip	21	1615MST			0	0		Hail (1.75)
Jackson County 8 NW Kadoka	21	1650MST			0	0		Hail (1.00)
Jackson County 2 E Kadoka	cloud		thern Butte C	County. The				Hail (1.00) evening. The storm produced a funnel over west-central Meade County in an
Haakon County Philip	22	1905MST			0	0		Funnel Cloud
Haakon County Philip		1905MST were thunderstorm o. No damage was			<b>0</b> unty produ	0 ced three	funnel clouds and a	Thunderstorm Wind (G52) wind gust to 60 mph near the town of
Perkins County 6 E Bison	23	2340MST 2350MST			0	0	5K	Thunderstorm Wind (G74)
Perkins County Meadow	23	2345MST 2355MST			0	0		Hail (0.75)
Perkins County Meadow	23 Crops	2345MST 2355MST were destroyed fr	om wind driv	en hail.	0	0	5K 25K	Thunderstorm Wind (G74)
Perkins County 1 N Meadow	23 24	2350MST 0005MST			0	0	5K	Thunderstorm Wind (G74)
Perkins County 1 N Meadow	23 24	2350MST 0005MST			0	0	25K	Thunderstorm Wind (G75)

Crops were destroyed from wind driven hail.





Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Numb Pers Killed	ons	Estimated Damage Property Crops	June 199 Character of Storm	)7
SOUTH DAKOTA,	<u>West</u>								
Perkins County 3 N Meadow	23	2352MST			0	0		Hail (1.75)	
Perkins County									
6 N Meadow	24	0000MST 0005MST			0	0		Thunderstorm Wind (G50)	
	was b	lown off a buildir	ng, numerous	power poles	were downe	d, trees were	stripped of big bra	ota during the overnight hours. A ronches and many area farmers lost the satellite images days after the event	neir
Pennington County Rapid City	28	2325MST			0	0		Hail (0.75)	
Pennington County								, ,	
7 S Wall	29	0020MST			0	0		Thunderstorm Wind (G63)	
	two in		uthwest Rapid	d City. The	same storm	later produ	ced a 72 mph win	three-quarter inch hail that piled up d gust at the Badlands National Po	
Pennington County 15 W Rapid City	29	1436MST			0	0		Hail (2.00)	
Pennington County 10 W Rapid City	29	1445MST			0	0		Hail (2.00)	
Pennington County Hisega	29	1502MST			0	0		Hail (1.50)	
Pennington County 5 SW Keystone	29	1506MST			0	0		Hail (0.75)	
Custer County	20	1524MCT			0	0		T 11 (1 75)	
15 E Custer					noon hours			Hail (1.75) il in some locations. The storm movor damage were reported.	/ed
Perkins County									
8 WNW Usta	which		y branches be	ing broken o				Hail (0.75) s and produced hail and strong wingh that vehicles had difficulty getting	
Mellette County Wood	30	1520MST			0	0		Hail (0.75)	
Todd County 20 SW Mission	30	1605MST			0	0		Hail (1.00)	
Lawrence County Deadwood	30	2225MST			0	0		Hail (0.75)	
Meade County Sturgis	30	2240MST 2245MST			0	0		Hail (2.50)	





Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)		ber of sons Injured	Estin Dar Property	nated nage Crops	June 1997 Character of Storm
WYOMING, Northea	<u>st</u>								
Crook County 4 S Sundance	11	1040MST	0.1	1	0	0			Tornado (F0)
Campbell County 13 SE Gillette	14	1600MST			0	0			Hail (0.75)
Campbell County Recluse	23	1950MST			0	0			Hail (1.75)
Crook County 4 W New Haven	23	2040MST			0	0			Hail (1.00)
Crook County New Haven		2045MST e thunderstorms dege was reported fro		northeast W	<b>0</b> Vyoming d	<b>0</b> uring the l	ate evening	hours and	Hail (1.00) produced up to golfball size hail. No
Campbell County Gillette	<b>27</b> A thur	1925MST nderstorm with litt	le rain resulte	d in strong s	<b>0</b> traight line	0 winds ove	<b>5K</b> er Gillette ar	nd ripped a	Thunderstorm Wind (G53) roof off a mobile home
Crook County 10 NE Moorcroft	28	1720MST			0	0			Hail (1.00)
Crook County 6 N Sundance	28	1725MST			0	0			Hail (0.75)
Campbell County 20 N Gillette	29 30	0300MST 1200MST			0	0			Wild/Forest Fire

An electrical storm during the early morning hours resulted in a wild fire that burned 20 to 30 acres of timber north of Gillette. No injuries were reported with the fire and no buildings were damaged.





Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)		ber of sons Injured	Estimated Damage Property Crops	Character of Storm	July 1997
SOUTH DAKOTA, We	<u>est</u>								
Perkins County 5 N Bison	01	0045MST			0	0		Hail (1.75)	
Haakon County 2 NW Hilland	01	0240MST			0	0		Hail (0.75)	
Meade County 4 SW Plainview to 4 W Plainview	01	0330MST			0	0		Hail (2.00)	
Haakon County Philip	<b>01</b> Strong	<b>0410MST</b> g winds and 1/2 in	nch diameter h	nail struck the	<b>0</b> e Philip area	0 a. Numero	us tree limbs were do	Thunderstorm V wned.	Vind (G60)
SDZ001>002-012>014- 024>032-041>044-047-049	South		Central Black	k Hills - Sout	hern Black			rn Foot Hills - Centra ngton Plains - Haako	
	01	0900MST 2100MST			0	2		High Wind (G70	)
	Dama	ge included down	ned trees, pov	wer outages,	and structu	ıral damag	ge. Most damage occ	Dakota, and higher gu curred in the central I merous small wildfires	Black Hills where
Ziebach County Dupree		1330MST 1345MST derstorms combin amaged trees and					mage in the Dupree	Thunderstorm Varea. Winds ripped sh	, ,
Butte County Belle Fourche Arpt	06	2150MST			0	0		Thunderstorm V	Vind (G63)
Meade County Sturgis	06 A tree	2210MST fell and damaged	l a trailer hom	ne.	0	0	3K	Thunderstorm V	Vind
Meade County Ellsworth Afb	06	2259MST			0	0		Thunderstorm V	Vind (G79)
Pennington County Rapid City	10	1540MST 1555MST			0	0	12K	Thunderstorm V	Vind (G60)
		rous tree limbs v ge. Also, scattered			ig some tha	at were 12	2 inches in diameter.	A building supply st	tore received roof
Bennett County Harrington	10	2215MST			0	0		Thunderstorm V	Vind (G52)
Lawrence County 8 W Spearfish	12	1433MST			0	0		Hail (1.00)	
Meade County 1 SW Sturgis	12	1545MST			0	0		Hail (1.75)	
Fall River County 7 SE Hot Spgs	<b>12</b> A 60 1	1545MST mph wind gust wa	as reported fro	om Angostura	<b>0</b> n Reservoir	<b>0</b> Dam.		Thunderstorm V	Vind (G52)
Shannon County Kyle	12	1725MST			0	0		Thunderstorm V	Vind (G61)





•	ъ.	Time Local/	ocal/ Length V		Path Number of Width Persons		Estimated Damage	July 1997	
Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property Crops	Character of Storm	
SOUTH DAKOTA,	West								
Custer County Custer	18	1825MST			0	0		Thunderstorm Wind (G60)	
Fall River County									
6 E Edgemont	18	1840MST			0	0		Hail (0.75)	
Pennington County 7 W Rapid City	18	1847MST			0	0		Thunderstorm Wind (G61)	
Fall River County	10	10 <i>55MCT</i>			0	0	2W	H 2 (0.55)	
Ardmore	<b>18</b> Hail b	1855MST broke several wind	dows and piled	d one to two	0 feet deep.	0	2K	Hail (0.75)	
Fall River County Hot Spgs	18	1855MST			0	0		Thunderstorm Wind (G52)	
	Powe	r lines were down	ed.						
Pennington County 8 SW Rapid City	18	1924MST			0	0		Thunderstorm Wind (G52)	
Pennington County Wasta	18	1958MST			0	0		Thunderstorm Wind (G52)	
Pennington County 3 NE Creighton	18	2030MST			0	0		Thunderstorm Wind (G55)	
Meade County 15 S Plainview	18	2033MST			0	0		Thunderstorm Wind (G52)	
Harding County Ladner	18	1830MST			0	0		Thunderstorm Wind (G52)	
		hay bales rolled a he tractors. Tree of			es and fence	es. Several	people who were ba	ling hay quit when large bales began to	
Meade County 12 SW Maurine	19	1408MST			0	0		Hail (2.00)	
Meade County									
12 SW Maurine	<b>19</b> 60 m <sub>l</sub>	1408MST oh winds combine	d with large h	ail to damage	0 e trees along	<b>0</b> g Sulphur C	Creek.	Thunderstorm Wind (G52)	
Meade County 10 SW Maurine	19	1410MST			0	0		Hail (1.00)	
Meade County									
13 S Faith	<b>19</b> Hail c	1535MST covered the ground	d.		0	0		Hail (1.00)	
Meade County									
13 S Faith	19	1541MST			0	0		Hail (1.75)	
Custer County 15 SW Custer	19	1630MST			0	0		Hail (2.00)	
Bennett County	10	171034C/D			0	0		N (0	
15 NE Martin	<b>19</b> Hail v	1710MST was two inches de	ep on ground.		0	0		Hail (0.75)	
<b>Bennett County</b>									
Martin to Vetal	19	1745MST 2230MST			0	0		Flash Flood	
	Slow	moving thunderst	orms produced	d three to six	inches of ra	infall with	in a two hour period	in the Martin area. Water up to 1/2 foot	

Slow moving thunderstorms produced three to six inches of rainfall within a two hour period in the Martin area. Water up to 1/2 foot deep covered portions of Highway 18 and Highway 73, especially north and east of Martin. Small streams rose out of their banks, and widespread flooding of wheat fields was reported.



**Perkins County** 

20 S White Butte

#### National Weather Service Storm Data and Unusual Weather Phenomena



		Time Local/	Path Length (Miles)	Path Width	Numb Pers		Estin Dar	nated nage		July 1997
Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm	
SOUTH DAKOTA, W	<u>/est</u>									
Haakon County 10 W Philip	22	0435MST			0	0			Hail (0.75)	
Todd County Lakeview	22	1615MST 1630MST			0	0	20K	50K	Hail (2.00)	
		ounded the Lakeviled up three to fo		-	and oat fiel	ds. Severa	al homes ha	d broken v	vindows, and minor st	ructural damage.
Pennington County Hill City	23	1455MST			0	0			Hail (1.75)	
Fall River County Edgemont	23	1915MST			0	0	5K		Lightning	
	Lightr	ning struck a busin	ness, destroyir	ng a compute	r and damag	ging the pl	hone and el	ectrical sys	stem.	
Pennington County Wasta	23	2055MST			0	0			Thunderstorm W	ind (G52)
Pennington County 25 SW Rapid City	<b>24</b> 3/4 inc	1310MST ch hail was report	ed at Mt. Rusl	hmore.	0	0			Hail (0.75)	
Lawrence County 5 W Lead	24 Golfb	1425MST 1430MST all size hail was ro	enorted at Dee	er Mountain	0	0			Hail (1.75)	
Custer County 10 E Hermosa	24	1600MST	oported at Bee	i Wioumum.	0	0			Hail (1.75)	
Harding County Buffalo	24	1700MST			0	0			Thunderstorm W	ind (G53)
Jackson County Interior	24	1720MST 1740MST			0	0			Hail (0.75)	
Jackson County 20 NE Kadoka	<b>24</b> 3/4 inc	1845MST ch hail was report	ed along High	iway 63 in no	0 ortheast Jacl	<b>0</b> kson Cour	nty.		Hail (0.75)	
Mellette County 10 NE White River	24	1945MST			0	0			Hail (1.75)	
Lawrence County Lead	24	1400MST 2000MST			0	0			Flash Flood	
Pennington County Deerfield to Rochford	24	1400MST 2000MST			0	0			Urban/Sml Stream	n Fld
1.001107.0	Highw were v five ir	nary thunderstorn way 14A west of washed out around	Lead. Floodind Lead. White sed the south	g occurred r wood Creek fork of Rapi	near the int and Yellow id Creek to	tersection Creek we rise over	of Highwa ere over the	y 85 and I ir banks. Ir	Rock and mud slides Highway 385. Several In northwest Pennington west of Rochford. Mir	secondary roads County, four to

A 150 foot pole barn was destroyed.

1600MST

25

20K

Thunderstorm Wind (G60)





Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number Perse Killed		Estimated Damage Property Crops	July 1997 Character of Storm
SOUTH DAKOTA, W	<u>est</u>							
Harding County 1.5 E Redig	25	2245MST			0	0		Thunderstorm Wind (G65)
<b>Butte County</b>								
1 N Belle Fourche	26	0000MST 0010MST			0	0	1K	Hail (1.00)
	Large	hail damaged sev	veral cars.					
WYOMING, Northeas	<u>st</u>							
WYZ054>058		te - South Camp	bell - Moorcro	oft - Wyomii	ng Black Hi		ton	
	01	0700MST 1900MST			0	0		High Wind (G50)
	Most			-			e in Gillette causing of everal large trees were	nly minor damage. e uprooted. Several homes in Sundance
Campbell County Gillette	06 Nume	1928MST 1940MST rous tree limbs ar	nd power lines	were down.	0	0		Thunderstorm Wind (G53)
Campbell County 15 SE Gillette	06	1957MST			0	0		Thunderstorm Wind (G52)
Weston County Upton	06	2049MST			0	0		Thunderstorm Wind (G52)
Weston County Newcastle	08	2020MST			0	0		Hail (0.75)
Weston County Newcastle	18	1743MST			0	0		Hail (0.75)
Campbell County 20 N Gillette	18	1900MST 1920MST			0	0	25K	Thunderstorm Wind (G65)
		s ripped off part o ws were broken b			-		erior. A garage under	construction was heavily damaged, and
Campbell County								
Recluse to Weston	18	2030MST 2300MST		п с	0	0	D.	Urban/Sml Stream Fld

Low land flooding was reported along Horse Creek and the Little Powder River.





Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Numb Pers Killed		Estimated Damage Property Crops	August 1997
SOUTH DAKOTA, W	<u>Vest</u>							
Pennington County Hisega	01	1413MST 1513MST			0	0		Hail (0.75)
Custer County Fairburn	01	1530MST			0	0		Hail (1.00)
Pennington County 12 W Rapid City to Rapid City	02	1100MST 1115MST			0	0		Hail (1.00)
Pennington County Rapid City	02	1115MST 1120MST			0	0		Hail (1.75)
Pennington County 5 SW Rapid City	02	1120MST			0	0		Hail (1.50)
Pennington County 7 S Rapid City	02	1125MST			0	0		Hail (2.00)
Meade County Piedmont	02	1250MST			0	0		Hail (1.00)
Pennington County 7 S Wall	<b>02</b> MAJ0	<b>1512MST</b> OR AUTOMOBI	ILE DAMAGE	E REPORTEI	0	0		Hail (4.00)
Jackson County 5 W Cedar Pass to Cedar Pass	02 GRA	1538MST VEL ROADS W	ASHED OUT	IN BADLAN	<b>0</b> JDS NATIO	0 NAL PAR	K	Flood
Jackson County 5 W Cedar Pass	02	1538MST 1648MST			0	0		Hail (1.75)
Butte County 3 S Hoover	08	1930MST			0	0		Hail (1.00)
Butte County 3 S Hoover	<b>08</b> TRUC	<b>1930MST</b> CK BLOWN OF	F HIGHWAY.		0	0		Thunderstorm Wind (G52)
Pennington County Rapid City	13 MINO	1223MST 1225MST OR STREET FLO	OODING REP	ORTED.	0	0		Hail (1.00)
Pennington County 5 E Rapid City	13	1245MST			0	0		Hail (2.00)
Ziebach County 15 ESE Dupree	13	1330MST			0	0		Hail (1.75)
Haakon County Milesville	13	1500MST			0	0		Hail (1.00)
Pennington County Rapid City	13	1500MST			0	0		Hail (0.75)
Pennington County Rapid City	13	1505MST			0	0		Thunderstorm Wind (G50)
Custer County 5 NW Custer	18	1740MST			0	0		Hail (0.75)
Shannon County Pine Ridge	18 Rooi	<b>2014MST</b> F BLOWN OFF	DORMITORY	<i>7</i> .	0	0		Thunderstorm Wind (G80)





		Time Local/	Path Length	Path Width	Numbe Perso	ns	Estimated Damage	August 1997
Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property Crops	Character of Storm
SOUTH DAKOTA, V	<u>West</u>							
Shannon County Kyle	18	2042MST			0	0		Thunderstorm Wind (G70)
Lawrence County 12 S Deadwood	26	1342MST			0	0		Hail (1.75)
Pennington County 12 E Rochford	26	1544MST			0	0		Hail (1.75)
Jackson County Cactus Flats	26	1545MST			0	0		Hail (0.75)
Haakon County Philip	26	1620MST			0	0		Hail (0.88)
Mellette County Cedar Butte	26	1900MST			0	0		Hail (0.75)
Todd County Okreek	26	1935MST			0	0		Hail (0.75)
Mellette County 4 S White River	29	1125MST			0	0		Hail (0.88)
Butte County 5 E Belle Fourche	30	1630MST			0	0		Hail (0.75)
Perkins County Shadehill	31	1705MST			0	0		Hail (0.75)
Harding County Buffalo	31	1845MST			0	0		Thunderstorm Wind (G51)
WYOMING, Northea	ast							
Crook County 7 SW Sundance	18	1500MST			0	0		Hail (0.75)



6 N Kirley

1608MST

#### **National Weather Service** Storm Data and Unusual Weather Phenomena



		Time Local/	Path Length	Path Width		ber of sons		nated nage	September 1997
Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm
SOUTH DAKOTA,	West								
Perkins County									
7 N Meadow	06	1530MST			0	0	5K		Thunderstorm Wind (G61)
		1535MST							
Haakon County									

Thunderstorm Wind (G52) A line of strong thunderstorms developed from northwest to south central South Dakota during the late afternoon hours. Strong winds were the main hazard from these storms, blowing trees and a pole barn over in Perkins County. Pea size hail with drifts of three to four feet deep were reported in Haakon County.





Location	Dete	Time Local/	Path Length	Path Width	Numbe Perso	ons	Estimated Damage	October 1997
Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property Crops	Character of Storm
SOUTH DAKOTA, V	<u>Vest</u>							
Pennington County 13 W Rapid City	11	1525MST			0	0		Hail (0.75)
Meade County Piedmont	11	1530MST			0	0		Hail (0.88)
Meade County 3 N Hereford	11	1611MST			0	0		Hail (0.75)
Ziebach County 15 SE Dupree	11 Golfba	1615MST all size hail covere	ed the ground		0	0		Hail (1.75)
Meade County Union Center	11	1630MST			0	0		Hail (0.75)
Meade County 10 S Union Center	11 Windo	1630MST ows were blown o	out at Hope Scl	nool	0	0	8K	Thunderstorm Wind (G80)
Ziebach County Dupree	11	1630MST			0	0		Hail (0.88)
Meade County 6 NE Red Owl	<b>11</b> Hail k	1636MST nocked out windo	ows at several	houses.	0	0	5K	Hail (1.00)
Meade County White Owl	11	1645MST			0	0		Hail (1.00)
Meade County Enning	11 Nume	1646MST rous windows we	re broken at E	nning Schoo	<b>0</b>	0	5K	Hail (1.00)
Meade County Enning	11 Roofs	<b>1646MST</b> were ripped off s	everal building	gs.	0	0	4K	Thunderstorm Wind (G90)
Meade County 3 E Union Center	<b>11</b> Hail u	1646MST p to 6 inches deep	o covered high	way 34.	0	0		Hail (1.25)
Meade County 3 E Enning	11 Brief t	1650MST cornado reported b	0.2 by law enforce	<b>50</b> ment officer	<b>0</b> along Highv	<b>0</b> vay 34. P	ath length and width	Tornado (F0) are estimated.
Meade County Marcus	11 Roofs	1653MST were blown off so	everal buildinş	gs.	0	0	3K	Thunderstorm Wind (G90)
Ziebach County 15 W Dupree	11	1715MST			0	0		Hail (2.75)
Ziebach County Dupree	11 Windo	1730MST ows broken in veh	ticles.		0	0	1K	Hail (1.25)

Thunderstorms developed over the Black Hills and surrounding plains and moved northeast into Meade County. The storms strengthened causing widespread wind and hail damage from Central Meade County into Ziebach County. Windows were broken out of homes, schools, and cars. Roofs were ripped off several buildings. Highways 34, 212, and 73 were briefly closed in some areas due to high water and deep hail.





October 1997 Path Length (Miles) Time Local/ Path Width Number of Persons Estimated Damage

#### **SOUTH DAKOTA, West**

SDZ001>002-012>014-024>032-041>044-046>047-049

Harding - Perkins - Butte - Meade Co. Plains - Ziebach - Northern Black Hills - Northern Foot Hills - Central Foot Hills -Southern Foot Hills - Central Black Hills - Southern Black Hills - Custer Plains - Pennington Plains - Haakon - Fall River Co. - Shannon - Jackson - Bennett - Mellette - Todd - Tripp

12 13 1000MST High Wind (G55) 1800MST

Northwest winds approached 60 mph at times, especially during the afternoon hours of 10/12 and 10/13.

SDZ027>029-041>042

Southern Foot Hills - Central Black Hills - Southern Black Hills - Fall River Co. - Shannon

0400MST 0800MST Winter Storm 24 25

Snowfall of 4 to 6 inches was reported across the higher elevations of the central and southern Black Hills with 2 to 4 inches along the foothills. In South Dakota, the heaviest snow fell near the Nebraska border. 6 to 10 inches fell over the southern 1/3 of Fall River County with around 4 inches in southwest Shannon County. The snow,

combined with winds to 40 mph, caused near zero visibility at times with blowing and drifting snow





Time Local/ Length Width Persons Damage
Location Date Standard (Miles) (Yards) Killed Injured Property Crops Character of Storm

#### **SOUTH DAKOTA, West**

SDZ001>002-012>014-031>032-042>044-046-049

Harding - Perkins - Butte - Meade Co. Plains - Ziebach - Pennington Plains - Haakon - Shannon - Jackson - Bennett -

Mellette - Tripp

7 0600MST 0 0 High Wind (G50) 2230MST

Strong northwest winds between 30 mph and 50 mph howled across western South Dakota most of November 2. A gust of 58 mph was recorded at Ellsworth Air Force Base, while a gust of 53 mph was recorded at Badlands National Park

SDZ024>025 Northern Black Hills - Northern Foot Hills

14 1200MST 0 0 Heavy Snow

Heavy snow developed over the northern Black Hills and northern foothills during the afternoon Thursday, November, 14, 1997. By Friday afternoon, some 24 hour accumulations included: 14 inches at Galena, 12 inches at Lead, 11 inches at Deadwood and 8 inches at Spearfish.





December 1997 Time Local/ Path Length Path Number of Estimated Width Persons Damage **SOUTH DAKOTA, West** SDZ024 Northern Black Hills 0100MST 0 0 **Heavy Snow** An upslope snow event resulted in snowfall amounts of 6 inches in the northern Black Hills SDZ001>002-012>014-Harding - Perkins - Butte - Meade Co. Plains - Ziebach - Northern Foot Hills - Central Foot Hills - Southern Foot Hills -025>027-029>032-Southern Black Hills - Custer Plains - Pennington Plains - Haakon - Fall River Co. - Shannon - Jackson - Bennett - Mellette 041>044-046>047-049 - Todd - Tripp 27 28 1300MST 0230MST Winter Storm Northern Black Hills - Central Black Hills SDZ024-028 1300MST 0430MST 0 0 27 28 Heavy Snow A strong low pressure system moved through the Northern Plains resulting in snow, very gusty winds, and below zero wind chills. The areas hit hardest by the storm were the northern and central Black Hills. Snow amounts in these areas ranged from four to eight inches. Elsewhere snow amounts were one to two inches, but combined with wind gusts over 50 mph visibilities were occasionally reduced to less than one half mile. SDZ024-028 Northern Black Hills - Central Black Hills 29 30 1800MST 0500MST 0 Winter Storm An upper level disturbance moved over the central and northern Black Hills and produced upslope freezing rain and snow, below zero wind chills, and strong winds. Snow amounts were six to eight inches. Northwest winds of 15 to 30 mph resulted in below zero wind chills and blowing snow reducing visibilities to less than one half mile. WYOMING, Northeast WYZ054>056 Gillette - South Campbell - Moorcroft 1200MST 0100MST 27 28 Winter Storm Wyoming Black Hills - Weston WYZ057>058 1200MST 0100MST 0 0 **Heavy Snow** A strong low pressure system moved through the Northern Plains resulting in snow, very gusty winds, and below zero wind chills. The area hit hardest by the storm was extreme northeast Wyoming. Snow amounts in this area ranged from four to eight inches. Elsewhere snow amounts were one to two inches but combined with wind gusts over 50 mph visibilities were occasionally reduced to less than one half mile.

WYZ057 Wyoming Black Hills

29 1800MST 0 0 Winter Storm 30 0500MST

An upper level disturbance moved through extreme northeast Wyoming and produced upslope freezing rain and snow over the Wyoming Black Hills. Snow amounts were four to six inches. Northwest winds of 15 to 30 mph resulted in below zero wind chills and blowing snow reducing visibilities to less than one half mile.